**COMMONWEALTH OF VIRGINIA**
**Department of Environmental Quality**
**Southwest Regional Office**

# STATEMENT OF LEGAL AND FACTUAL BASIS

Island Creek Coal Company - VP No. 1 Preparation Plant
Keen Mountain, Buchanan County, Virginia
Permit No. SWRO10354

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Island Creek Coal Company has applied for a Title V Operating Permit for its VP #1 Preparation Plant. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact: _____ Date: February 13, 2008

Air Permit Manager: Date: February 13, 2008

Regional Director: Date: February 13, 2008

## FACILITY INFORMATION

Permittee
Island Creek Coal Company
P.O. Drawer L
Oakwood, VA 24631

Facility
VP No. 1 Preparation Plant
Route 638, Keen Mountain
Buchanan County, Virginia

County-Plant ID No. 51-027-00011

## SOURCE DESCRIPTION

NAICS Code: 212112 - Coal preparation

The facility cleans and dries coal prior to shipment by rail or truck. The facility utilizes a coal-fired thermal dryer to dry the coal cleaned by the wet process preparation plant that includes froth flotation and vacuum filtration.

Air emissions from the facility include particulate matter (PM, includes PM-10) from all the dry processing units; volatile organic compounds (VOC) from the thermal dryer and wet coal processing; and PM, PM-10, nitrogen oxides ($NO_X$), sulfur dioxide ($SO_2$), carbon monoxide (CO) and trace amounts of hazardous air pollutants (HAP) from the thermal dryer.

The facility is considered a Title V major source because potential emissions of PM, NOx, $SO_2$, and CO are above the major source threshold. This facility is located in an attainment area for all pollutants.

## COMPLIANCE STATUS

The facility has not operated since 1993. The most recent full compliance evaluation of the facility while in operation, including a site visit, was conducted on December 14, 1992. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

**EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION**

| Emission Unit ID | Stack ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant(s) Controlled |
|---|---|---|---|---|---|---|
| TP1 | Z01 | Run-of-Mine (ROM) coal from skip to ROM hopper | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| TP2 | Z01 | ROM coal from hopper to bar screen | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| TP3 | Z01 | ROM coal from bar screen to collection belt | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| TP4 | Z01 | ROM coal or rock from bar screen to crusher | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| TP5 | Z01 | ROM coal or rock from crusher to refuse belt or collection belt | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| TP6 | Z01 | ROM coal from collection belt to silo feed belt | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| TP7 | Z01 | ROM coal from silo feed belt to RC silo 1 or silo 2 transfer belt | 700 TPH | Full Enclosure | D03 | PM/PM-10 |
| TP8 | Z01 | ROM coal from RC silo 2 reclaim belt to plant feed belt | 700 TPH | Full Enclosure | D04 | PM/PM-10 |
| TP9 | Z01 | ROM coal from RC silo 1 to plant feed belt | 700 TPH | Full Enclosure | D04 | PM/PM-10 |
| TP10 | Z01 | Fine coal collection belt to thermal dryer feed belt 1 or by-pass system | 347 TPH | Full Enclosure | D05 | PM/PM-10 |
| TP11 | Z01 | Thermal dryer feed belt 1 to TD feed belt 2 | 347 TPH | Full Enclosure | D06 | PM/PM-10 |
| TP12 | Z01 | Thermal dryer feed belt 2 to thermal dryer | 347 TPH | Full Enclosure | D07 | PM/PM-10 |
| TP13 | Z01 | Thermal dryer to dried coal belt 1 | 342 TPH | Full Enclosure | D07 | PM/PM-10 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant(s) Controlled |
|---|---|---|---|---|---|---|
| TP14 | Z01 | Thermal dryer dried coal belt 1 to dried coal belt 2 | 342 TPH | Full Enclosure | D20 | PM/PM-10 |
| TP15 | Z01 | Thermal dryer dried coal belt 2 to stockpile or load-out belt | 342 TPH | Full Enclosure | D09 | PM/PM-10 |
| TP16 | Z01 | CC stockpile conveyor A to conveyor B | 436 TPH | Full Enclosure | D10 | PM/PM-10 |
| TP17 | Z01 | CC stockpile reclaim belt to conveyor C | 436 TPH | Full Enclosure | D11 | PM/PM-10 |
| TP18 | Z01 | CC stockpile conveyor C to conveyor D | 436 TPH | Full Enclosure | D12 | PM/PM-10 |
| TP19 | Z01 | CC stockpile conveyor D to plant by-pass belt 2 | 436 TPH | Full Enclosure | D13 | PM/PM-10 |
| TP20 | Z01 | Plant by-pass belt 2 to load-out belt | 436 TPH | Full Enclosure | D09 | PM/PM-10 |
| TP21 | Z01 | Load-out belt to rail load-out | 436 TPH | Full Enclosure | D14 | PM/PM-10 |
| TP22 | Z01 | Refuse from refuse collection belt to refuse belt | 264 TPH | Partial Enclosure | D21 | PM/PM-10 |
| TP23 | Z01 | Refuse from refuse belt to refuse bin 1 | 264 TPH | Partial Enclosure | D02 | PM/PM-10 |
| TP24 | Z01 | Refuse from refuse bin 1 to refuse tram | 264 TPH | Partial Enclosure | D02 | PM/PM-10 |
| TP25 | Z01 | Refuse from tram to refuse bin 2 | 264 TPH | Partial Enclosure | D16 | PM/PM-10 |
| TP26 | Z01 | Clean Coal Stockpile coal load-in | 436 TPH | N/A | N/A | N/A |
| TP27 | Z01 | Clean coal load-out to railcar | 436 TPH | Chute | D15 | PM/PM-10 |
| TP28 | Z01 | Refuse bin load-out to refuse truck | 264 TPH | Chute | D17 | PM/PM-10 |
| CR1 | Z01 | ROM crusher | 700 TPH | Full Enclosure | D01 | PM/PM-10 |
| HR | Z01 | Unpaved haul roads-refuse | N/A | Water Spray | D19 | PM/PM-10 |
| CC Pile | Z01 | Clean coal stockpile | 5 acres | Water Content | N/A | PM/PM-10 |

| Emission Unit ID | Stack ID | Emission Unit Description | Size/Rated Capacity | Pollution Control Device (PCD) Description | PCD ID | Pollutant(s) Controlled |
|---|---|---|---|---|---|---|
| TD1 | P001 | Thermal Dryer #1 (coal-fired) | 154 million Btu/hr | Flex-Kleen Venturi Scrubber | D18 | $SO_2$, PM, PM-10 |
| PP-Fr | Z01 | Froth flotation | N/A | N/A | N/A | N/A |
| PP-Va | P002 | Vacuum filtration | N/A | N/A | N/A | N/A |
| PP-Th | Z01 | Thickener | N/A | N/A | N/A | N/A |
| Coal LO | Z01 | Dust/Freeze control | N/A | N/A | N/A | N/A |

**EMISSIONS INVENTORY**

The facility did not operate in 2006. A copy of the 2006 Emission Statement is attached.

| 2006 Actual Emissions | Criteria Pollutant Emission in Tons/Year | | | | |
|---|---|---|---|---|---|
| | VOC | CO | $SO_2$ | PM-10 | $NO_x$ |
| Total | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**EMISSION UNIT APPLICABLE REQUIREMENTS**

**Thermal Coal Dryer #1 (TD1): ENI coal-fired "Coal Flo" – Fluidized Bed – Size #8**

***Limitations***

The facility was constructed in 1965 and there have been no subsequent installations or modifications to the facility. The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

a. Article 4 of Title 9, Section 5, Chapter 40, Existing Stationary Sources, Emission Standards for General Process Operations. 9 VAC 5-40-280 B.1.a. limits sulfur dioxide emissions from combustion installations in accordance with the following equation: S = 2.64K, where S equals the allowable emission of sulfur dioxide expressed in lbs/hr, and K equals the actual heat input at total capacity expressed in Btu x $10^6$ per hour. Actual heat input at total capacity of the thermal dryer is 154 x $10^6$ Btu per hour. Therefore, a sulfur dioxide emission limit of 406.56 lb/hr applies to the thermal dryer.

b. Article 15 of Title 9, Section 5, Chapter 40, Existing Stationary Sources, Emission Standards for Coal Preparation Plants. 9 VAC 5-40-1980 A.1. limits particulate emissions from a thermal dryer with a process weight rate of 200 tons/hr or more to no more than 105 lb/hr.

Article 15 references Article 1 of Chapter 40 for the limit of Visible Emissions and Fugitive Dust Emissions. The only specific requirement is for the visible emissions:

a. Standard for visible emissions: 20% and 60% for any one 6-minute period in any one hour.

There is a standard for fugitive emissions that specifies controlling the generation of fugitive emissions by various workplace-type standards.

***Monitoring***

The facility is a major source subject to Title V permitting and therefore subject to 40 CFR Part 64 – Compliance Assurance Monitoring (CAM). An emission unit is subject to CAM if it meets all of the following criteria on a pollutant-by-pollutant basis:

a. Emits or has the potential to emit uncontrolled quantities of one or more regulated air pollutants at or above major source levels;

b. Is subject to one or more emissions limitations for the regulated air pollutants for which it is major before control; and

c. Uses an add-on control device to achieve compliance with the emissions limitations.

The thermal dryer is the only emission unit currently at VP No. 1 that meets all the above criteria as follows:

a. The thermal dryer emits uncontrolled quantities of PM, PM-10, NOx, $SO_2$, and CO above major source levels;

b. The thermal dryer is subject to the PM emission limit of 105 lb/hr as indicated by 9 VAC 5-40-1980.A; and

c. The thermal dryer uses a venturi scrubber to comply with the PM emission limit.

Because the thermal dryer meets the above criteria only when considering PM, CAM is required only for PM. While the venturi scrubber provides some control of $SO_2$ emissions from the thermal dryer, it is not used to comply with the $SO_2$ emission limit. Therefore, CAM does not apply to $SO_2$ emissions from the thermal dryer. The applicant submitted CAM information as required by 40 CFR 64.5, Deadlines for Submittals.

The permittee will be required to install the following:

a. A monitoring device for the temperature of the gas at the exit of the thermal dryer;

b. A monitoring device for the measurement of the pressure loss through the venturi constriction of the control device; and

c. A monitoring device for the measurement of the water supply pressure to the control equipment.

The permittee will be required to monitor, operate, calibrate and maintain the above-listed devices according to the CAM plan proposed by the applicant and summarized in the following table:

Thermal Dryer Compliance Assurance Monitoring Plan

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| I. Indicator | Exhaust Gas Temperature | Pressure Loss | Water Supply Pressure |
| A. Measurement Approach | Temperature probe | Differential pressure gauge | Pressure gauge |
| II. Indicator Range | To be established during initial performance tests | An excursion is defined as a pressure loss through the scrubber of less than 31 inches water column | An excursion is defined as a water supply pressure of less than 20 pounds per square inch gauge |
| III. Performance Criteria<br>A. Data Representativeness | The temperature probe monitors the temperature of the gas at the exit of the thermal dryer | The differential pressure gauge monitors the static pressures upstream and downstream of the scrubber's venturi throat | The water pressure gauge monitors water supply pressure to the scrubber. The gauge is to be located close to the water discharge point. |
| B. Verification of Operational Status | The monitoring device shall be installed and calibrated according to manufacturer's recommendations prior to initial performance tests | The monitoring device shall be installed and calibrated according to manufacturer's recommendations prior to initial performance tests | The monitoring device shall be installed and calibrated according to manufacturer's recommendations prior to initial performance tests |
| C. QA/QC Practices and Criteria | The device is to be certified by the manufacturer to be accurate within ± 3° Fahrenheit and calibrated annually based on the manufacturer's recommendations | The device is to be certified by the manufacturer to be accurate within ± 1 inch water gauge and calibrated annually based on the manufacturer's recommendations | The device is to be certified by the manufacturer to be accurate within ± 5% of design water supply pressure and calibrated annually based on the manufacturers recommendations |
| D. Monitoring Frequency | Measure continuously | Measure continuously | Measure continuously |
| E. Data Collection Procedures | Record continuously on a chart recorder | Record continuously on a chart recorder | Record continuously on a chart recorder |
| F. Averaging Period | None | None | None |

The indicators to be monitored reflect the performance of the venturi scrubber and thermal dryer. The range of operation for the scrubber pressure drop and the scrubber water supply pressure indicators are based on manufacturer design. The thermal dryer exit gas temperature range will be determined during future performance tests. Performance tests for particulate emissions from the thermal dryer will be required when the dryer is re-started and then once every two years. Performance test data will be used to verify the accuracy of each indicator range so that ongoing compliance with the PM emission limit can be reasonably assured. Operation of the thermal dryer and venturi scrubber so that each indicator is maintained within the appropriate range will provide a reasonable assurance of compliance with the PM emission limit. The monitoring proposed in the Compliance Assurance Monitoring plan is the same as that required by 40 CFR Part 60, Subpart Y, Standards of Performance for Coal Preparation Plants.

The permit will contain conditions requiring the permittee to conduct monitoring in accordance with 40 CFR 70.6(a)(3)(i) and 40 CFR 64.6(c).

The permit contains a requirement for weekly visual observations of the thermal dryer exhaust stack. If visible emissions appear to exceed 10% opacity during these weekly visual observations, a six-minute visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9, must be performed. If during the six minutes, any readings above 20% opacity are noted, a one-hour VEE will be required. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as possible such that no visible emissions exceed 10% opacity; the emissions unit is operating at normal conditions; and, the cause and corrective measures taken are recorded. This will satisfy the periodic monitoring requirement for the visible emission limitation included in the permit.

***Recordkeeping***

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include but are not limited to the following:

a. Monitoring data, monitor performance data, monitor maintenance and corrective actions for each thermal dryer exit gas temperature probe, venturi scrubber differential pressure gage and the venturi scrubber water supply pressure gage;

b. Monthly and annual production of dried coal from the thermal dryer. Annual production shall be calculated monthly as the sum of each consecutive 12-month period;

c. Monthly and annual consumption of coal by the thermal dryer. Annual consumption shall be calculated monthly as the sum of each consecutive 12-month period;

d. Performance tests;

e. Results of the weekly visual observations of the thermal dryer exhaust stack and any visible emissions evaluations; and

f. Results of the annual inspections of the cyclone.

***Testing***

The permit contains requirements to conduct a performance test for particulate matter and sulfur dioxide emissions from the thermal dryer exhaust within 180 days of start-up of the thermal dryer and then once every two years, thereafter. Performance testing provides additional assurance of compliance with the PM and $SO_2$ emission limits and maintains an accurate range of operation for each indicator monitored through the CAM plan.

The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

***Reporting***

In addition to the information included in the semi-annual monitoring report required by the Recordkeeping and Reporting section in the General Conditions of the Title V permit, the semi-annual monitoring report shall also include the following:

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable).

The permit includes requirements to report the dates of anticipated and actual re-start of the thermal dryer and the dates of anticipated performance tests.

***Streamlined Requirements***

There are no streamlined requirements.

**Facility-wide Requirements**

***Limitations***

The permit includes the coal processing and cleaning equipment as the facility-wide equipment.

The coal processing and cleaning equipment is subject to 9 VAC 5, Chapter 40, Article 15, Emission Standards for Coal Preparation Plants. There are no emission limits for the coal processing equipment, only references to the normal existing rules for visible emissions, fugitive emissions and others.

Article 1 of Chapter 40 requires the control of fugitive dust/emissions by various work practice and housekeeping measures.

***Monitoring***

The monitoring requirements included in the permit meet Part 70 requirements.

The permit contains a requirement for weekly visual observations of the coal processing equipment. If visible emissions appear to exceed 10% opacity during these weekly visual observations, a six-minute visible emission evaluation (VEE) in accordance with 40 CFR 60, Appendix A, Method 9, must be performed on the emissions unit. If during the six minutes, any readings above 20% opacity are noted, a one-hour VEE will be required. A Method 9 evaluation will not be required if the visible emissions condition is corrected as expeditiously as possible such that no visible emissions exceed 10% opacity; the emissions unit is operating at normal conditions; and, the cause and corrective measures taken are recorded. This will satisfy the periodic monitoring requirement for the visible emission limitation included in the permit.

***Recordkeeping***

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include results of the weekly visual observations and any visible emissions evaluations.

***Testing***

The permit does not require source tests pertaining to the coal processing and cleaning equipment. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

***Reporting***

The permit includes requirements to report the dates of anticipated and actual re-start of any coal processing, conveying, storage, transfer or loading equipment.

***Streamlined Requirements***

There are no streamlined requirements.

## GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

### Comments on General Conditions

### B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §§2.1-20.01:2 and §§10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement N0. 2-2003".

### F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excesses emissions reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four day time business hours of discovery of the malfunction.

### U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in section 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on General Condition F.

### Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

## STATE-ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

a. Article 2 of Title 9, Section 5, Chapter 40, Existing Stationary Sources, Emission Standards for Odor.

**FUTURE APPLICABLE REQUIREMENTS**

Island Creek Coal Company did not identify any future applicable requirements in their application, and DEQ is unaware of any future requirements that may apply during the life of the Title V permit. Therefore, no future applicable requirements have been included in the permit.

**INAPPLICABLE REQUIREMENTS**

40 CFR 60, Subpart Y, New Source Performance Standards for Coal Preparation Plants does not apply since the facility was constructed prior to the effective date of October 24, 1974.

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state, "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

**COMPLIANCE PLAN**

Island Creek Coal Company is currently in compliance with all applicable requirements. No compliance plan was required in the application.

**INSIGNIFICANT EMISSION UNITS**

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

| Emission Unit No. | Emission Unit Description | Citation[1] (9 VAC) | Pollutant Emitted (5-80-720 B.) | Rated Capacity ( 5-80-720 C.) |
|---|---|---|---|---|
| INS-01 | Storage Tanks | 5-80-720 B.2 | VOC | N/A |
| INS-02 | Emergency Dryer Bypass | 5-80-720 B | VOC, $NO_x$, $SO_2$, PM-10, CO | N/A |
| INS-03 | Thermal Dryer Pre-Igniter | 5-80-720 B | VOC, $NO_x$, $SO_2$, PM-10, CO | N/A |
| Coal LO | Railcar Load-Out Sprays | 5-80-720 B.2 | VOC | N/A |

[1]The citation criteria for insignificant activities is as follows:
9 VAC 5-80-720 B - Insignificant due to emission levels.

**CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

**PUBLIC PARTICIPATION**

A public notice regarding the draft permit was published in the *Virginia Mountaineer* newspaper in Grundy, Virginia on November 15, 2007. A copy of the draft permit and public notice were sent to the USEPA on November 9, 2007. A copy of the public notice was sent to the affected states, including West Virginia, Kentucky, North Carolina and Tennessee, on November 9, 2007. A copy of the public notice was sent to all persons on the Title V mailing list by electronic mail, fax or postal mail no later than November 15, 2007.

Public comments were accepted from November 16, 2007, through December 15, 2007. No comments were received from the public, the affected states or the USEPA regarding the draft permit.